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Serial Number 10/674,234  
Docket Number YOR920030485US1  
Amendment1

**Amendment to the Claims****Listing of Claims:**

1. (Currently amended) A method of determining how a region of a data structure in an application evolves, comprising:

periodically traversing selected subgraphs of the region in the ~~running~~ application while the application is running;

locating structural changes in the subgraphs; and

using these structural changes to describe, characterize, and identify changes to the region as a whole and

reporting the changes to the region to an analysis agent.

2. (Cancelled) The method of claim 1 further comprising reporting the region changes to an analysis agent.

3. (Original) The method of claim 1 used to detect one of the following changes to a region: additions to a region; removals from a region; and internal restructuring within a region.

4. (Original) The method of claim 1 wherein the selected subgraphs to traverse are derived by

computing the region key for the constituents of the data structure; and identifying the unique set of paths from owner proxy to change proxy as the set of traversals.

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5. (Original) The method of claim 4 wherein the traversals are shortened by identifying a subpath of the path which is unlikely to change as the region evolves; and  
trimming the path to exclude the parts of the path which are unlikely to change.
6. (Currently amended) The method of claim 1 wherein determining how a region of a data structure in ~~an~~ the application evolves is a continuous and adaptive process.
7. (Original) The method of claim 6 wherein the process is made continuous and adaptive by  
identifying a set of desired updates; and  
adjusting the period in between traversals based on whether the desired updates have been witnessed.
8. (Original) The method of claim 6 wherein the process is made continuous and adaptive by  
identifying a set of desired updates; and  
adjusting the frequency of sampling any one traversal based on whether that traversal has detected desired updates.
9. (Original) The method of claim 6 wherein the process is made continuous and adaptive by implementing one of the following procedures based on the result of performing a traversal: adding new traversals; removing existing traversals; and modifying the path of existing traversals.

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10. (Currently amended) The method of claim 1 further comprising  
    updating qualitative characterizations of the regions under analysis based  
    on structural changes to the regions as a whole..
11. (Original) The method of claim 1 further comprising  
    updating quantitative characterizations of the regions under analysis based  
    on structural changes to the regions as a whole.
12. (Currently amended) A computer readable medium for determining how a  
    region of a data structure in an application evolves, comprising instructions for:  
        periodically traversing selected subgraphs of the region in the ~~running~~  
        application while the application is running;  
        locating structural changes in the subgraphs; and  
        using these structural changes to describe, characterize, and identify  
        changes to the region as a whole; and  
        reporting the changes to the region to an analysis agent.

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13. (Currently amended) An information processing system comprising:  
a processor comprising logic for performing instructions of:  
periodically traversing selected subgraphs of the region in the ~~running~~ application  
while the application is running;  
locating structural changes in the subgraphs; and  
using these structural changes to describe, characterize, and identify changes to  
the region as a whole; and  
a memory for storing the instructions; and  
an interface for reporting the changes to the region to an analysis agent.